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Re: Application No.: 09/666,074 Attorney Docket No: AUS9-2000-0384-US1	
Date: Monday, August 22, 2005	
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AUG 22 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Greenstein et al.

Serial No.: 09/666,074

Filed: September 21, 2000

For: Method and Apparatus for
Sharing Information in a Virtual
Environment

Group Art Unit: 2155

Examiner: Won, Michael Young

Attorney Docket No.: AUS9-2000-0384-US1

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By:

Angelia C. Turner

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P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

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- Appeal Brief (37 C.F.R. 41.37)

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Respectfully submitted,

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AUG 22 2005

Docket No. AUS9-2000-0384-US1

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Greenstein et al.

Serial No.: 09/666,074

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For: Method and Apparatus for Sharing
Information in a Virtual Environment§
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Group Art Unit: 2155

Examiner: Won, Michael Young

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on 08.22.05

By:


Ardelia C. Turner

APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on June 22, 2005.

The fees required under § 41.20(B)(2), and any required petition for extension of time for filing this
brief and fees therefore, are dealt with in the accompanying TRANSMITTAL OF APPEAL
BRIEF.

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(Appeal Brief Page 1 of 29)
Greenstein et al. - 09/666,074

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation

RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 21-29, 43-51, 53, and 54

B. STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims canceled: 1-20, 30-42, and 52
2. Claims withdrawn from consideration but not canceled: NONE
3. Claims pending: 21-29, 43-51, 53, and 54
4. Claims allowed: NONE
5. Claims rejected: 21-29, 43-51, 53, and 54
6. Claims objected to: NONE

C. CLAIMS ON APPEAL

The claims on appeal are: 21-29, 43-51, 53, and 54

STATUS OF AMENDMENTS

There are no amendments after final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER***Independent claim 21:***

The presently claimed invention provides a method for sharing data in a three-dimensional environment. The present invention renders a three-dimensional environment on a client computer associated with a first participant. See specification, page 14, line 18, to page 16, line 29; page 20, line 19, to page 21, line 19; page 30, line 28, to page 31, line 13. The present invention receives shared information from a client computer associated with a second participant including information to be shared and information indicating an access control level for the first participant. See specification, page 22, lines 12-18; page 24, line 7, to page 25, line 17; page 31, lines 13-22; page 34, line 10, to page 35, line 16; **Figures 10 and 11**. The present invention then displays a virtual representation of the shared data in the rendered three-dimensional environment on the client computer associated with the first participant based on the access control level of the first participant. See specification, page 31, lines 13-22; page 34, line 21, to page 35, line 16; **Figure 11**.

Independent claim 28:

The presently claimed invention provides a method for transferring files in a three-dimensional environment. The present invention presents a graphical user interface on a client associated with a first participant and renders a three-dimensional environment in the graphical user interface. See specification, page 14, line 18, to page 16, line 29; page 20, line 19, to page 21, line 19; page 30, line 28, to page 31, line 13. The three-dimensional environment includes an avatar representing a second participant. See specification, page 27, line 20, to page 28, line 13; **Figures 7D and 7E**. The present invention receives selection of the avatar in the graphical user interface, receives a selection of a file to be transferred in the graphical user interface, and transfers the file to a client computer associated with the second participant. See specification, page 27, line 20, to page 28, line 13; **Figures 7D and 7E**.

Independent claim 43:

The presently claimed invention provides an apparatus for sharing data in a three-dimensional environment. The present invention renders a three-dimensional environment on a client computer associated with a first participant. See specification, page 14, line 18, to page 16, line 29; page 20, line 19, to page 21, line 19; page 30, line 28, to page 31, line 13. The present invention receives shared information from a client computer associated with a second participant including information to be shared and information indicating an access control level for the first participant. See specification, page 22, lines 12-18; page 24, line 7, to page 25, line 17; page 31, lines 13-22; page 34, line 10, to page 35, line 16; Figures 10 and 11. The present invention then displays a virtual representation of the shared data in the rendered three-dimensional environment on the client computer associated with the first participant based on the access control level of the first participant. See specification, page 31, lines 13-22; page 34, line 21, to page 35, line 16; Figure 11.

The means recited in independent claim 43, as well as dependent claims 44-49, may be data processing hardware within the client computer shown in Figure 3, for example, operating under control of software performing the steps described in the specification at page 30, line 28, to page 35, line 16, or equivalent.

Independent claim 50:

The presently claimed invention provides an apparatus for transferring files in a three-dimensional environment. The present invention presents a graphical user interface on a client associated with a first participant and renders a three-dimensional environment in the graphical user interface. See specification, page 14, line 18, to page 16, line 29; page 20, line 19, to page 21, line 19; page 30, line 28, to page 31, line 13. The three-dimensional environment includes an avatar representing a second participant. See specification, page 27, line 20, to page 28, line 13; Figures 7D and 7E. The present invention receives selection of the avatar in the graphical user interface, receives a selection of a file to be transferred in the graphical user interface, and transfers the file to a client computer associated with the second participant. See specification, page 27, line 20, to page 28, line 13; Figures 7D and 7E.

The means recited in independent claim 50, as well as dependent claim 51, may be data processing hardware within the client computer shown in Figure 3, for example, operating under control of software performing the steps described in the specification at page 30, line 28, to page 35, line 16, or equivalent.

Independent claim 53:

The presently claimed invention provides a computer program product for sharing data in a three-dimensional environment. The present invention renders a three-dimensional environment on a client computer associated with a first participant. See specification, page 14, line 18, to page 16, line 29; page 20, line 19, to page 21, line 19; page 30, line 28, to page 31, line 13. The present invention receives shared information from a client computer associated with a second participant including information to be shared and information indicating an access control level for the first participant. See specification, page 22, lines 12-18; page 24, line 7, to page 25, line 17; page 31, lines 13-22; page 34, line 10, to page 35, line 16; Figures 10 and 11. The present invention then displays a virtual representation of the shared data in the rendered three-dimensional environment on the client computer associated with the first participant based on the access control level of the first participant. See specification, page 31, lines 13-22; page 34, line 21, to page 35, line 16; Figure 11.

A person having ordinary skill in the art would be able to derive computer instructions on a computer readable medium given Figures 9A, 9B, 10, and 11 and the corresponding description at page 30, line 28, to page 35, line 16, or equivalent, without undue experimentation.

Independent claim 54:

The presently claimed invention provides a computer program product for transferring files in a three-dimensional environment. The present invention presents a graphical user interface on a client associated with a first participant and renders a three-dimensional environment in the graphical user interface. See specification, page 14, line 18, to page 16, line 29; page 20, line 19, to page 21, line 19; page 30, line 28, to page 31, line 13. The three-dimensional environment includes an avatar representing a second participant. See specification, page 27, line 20, to page

28, line 13; Figures 7D and 7E. The present invention receives selection of the avatar in the graphical user interface, receives a selection of a file to be transferred in the graphical user interface, and transfers the file to a client computer associated with the second participant. See specification, page 27, line 20, to page 28, line 13; Figures 7D and 7E.

A person having ordinary skill in the art would be able to derive computer instructions on a computer readable medium given Figures 9A, 9B, 10, and 11 and the corresponding description at page 30, line 28, to page 35, line 16, or equivalent, without undue experimentation.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection on appeal are as follows:

- I. Claims 21-27, 43-49, and 53 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Matsui et al.* (U.S. Patent No. 5,956,028) in view of *Dawson* (U.S. Patent No. 5,727,155);
- II. Claims 28, 50, and 54 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Benman Jr. et al.* (U.S. Patent No. 5,966,130) in view of *Kirk et al.* (U.S. Patent No. 6,175,842);
- III. Claims 29 and 51 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Benman Jr. et al.* (U.S. Patent No. 5,966,130) in view of *Kirk et al.* (U.S. Patent No. 6,175,842) and further in view of *Dawson* (U.S. Patent No. 5,727,155).

ARGUMENT

I. 35 U.S.C. § 103, Alleged Obviousness of claims 21-27, 43-49, and 53

The Final Office Action rejects claims 21-27, 43-49, and 53 under 35 U.S.C. § 103 as being unpatentable over *Matsui et al.* (U.S. Patent No. 5,956,028 A) in view of *Dawson* (U.S. Patent No. 5,727,155 A). This rejection is respectfully traversed.

Matsui teaches a virtual space communication system with three-dimensional image display. A plurality of client computers manipulated by individual users, a data management computer, and a host computer are connected through a network. The data management computer manages a virtual reality markup language (VRML) file expressing a virtual space. Each client computer displays the virtual space according to the VRML file. Participants may then manipulate objects in the virtual space. See *Matsui*, Abstract.

In a conventional VRML environment, participants are able to change the viewpoint or, in other words, "walk through" the virtual space. However, if the virtual space is divided into sections, which are stored on a server, the data must be read out of a 3D database and provided to a 3D drawing unit whenever the view point moves from one section of virtual space to another section of virtual space. Thus, moving the viewpoint from one space to another results in a long waiting period. See *Matsui*, col. 3, line 23, to col. 4, line 17. The invention of *Matsui* attempts to shorten the waiting time when the viewpoint enters a certain space for the first time.

Matsui teaches separating the management of the objects within a virtual space from the management of property data of the objects. *Matsui* states:

From the standpoint of managing the property data of the objects frequently changed by manipulation input at each client computer, separately from management of data expressing the virtual space which is not switched frequently, in this virtual space communication system, update of property data of objects corresponding to the manipulating input of the client computers is provided to the second management computer through the network, and the second management computer notifies the updating property data and the updated property data to the other client computer sharing the virtual space.

Matsui, col. 4, line 64, to col. 5, line 6. Therefore, client computers may manipulate objects in the virtual space. *Matsui* teaches a first management computer manages the manipulation of objects that are frequently changed, separately from the management of data expressing the virtual space that is not switched frequently. As acknowledged in the Office Action, *Matsui* does not teach or suggest shared data including access control information indicating an access control level for a given participant.

In fact, *Matsui* fails to teach shared data including access control information for good reason. In *Matsui*, the entire shared virtual space is encoded in a VRML file and the objects in this space are shared among all participants. No need exists in *Matsui* for including access control information, because all participants are intended to receive, view, and manipulate all information in the VRML file. *Matsui* simply does not contemplate displaying a virtual representation of shared data in a rendered three-dimensional environment based on the access control level of a participant.

The Final Office Action states that *Dawson* teaches shared data including access control information indicating an access control level for a given participant and displaying information based on the access control level in the Abstract and at col. 2, lines 38-43. *Dawson* does indeed teach dynamically controlling a remote system's access to a selected application of a host computer system and performing modifications to applications at the host system. See *Dawson*, Abstract. However, controlling access to applications at a host computer, as in *Dawson*, and displaying shared data in a rendered three-dimensional environment based on an access control level of a participant are quite different and are not functionally equivalent. Therefore, *Dawson* simply does not teach or fairly suggest displaying a virtual representation of shared data in a rendered three-dimensional environment based on an access control level.

Furthermore, in *Matsui*, the entire shared virtual space is shared among all participants. *Matsui* does not present a problem for which the teachings of *Dawson* can be considered a solution. Therefore, a person of ordinary skill in the art would not be motivated to combine the feature of dynamically controlling a remote system's access to a selected application of a host computer system, as taught by *Dawson*, with the virtual space communication system of *Dawson*. The Final Office Action alleges that a person of ordinary skill in the art would have been motivated to combine *Matsui* and *Dawson* because *Dawson* teaches that, with shared

applications, relinquishing complete control may be detrimental because it allows a participant to have access to information and to make modifications to applications that the host or server might not want. However, the problems associated with shared applications at a host computer system simply do not apply to objects within a shared virtual space. For this reason, *Dawson* is non-analogous art and a person of ordinary skill in the art would not look to the teachings of *Dawson* to solve the problems of *Matsui*, especially considering there are no such problems recognized in *Matsui*.

While *Matsui* does teach that each client may manipulate property data, there is no suggestion in *Matsui* that a right to do so should be controlled. To the contrary, as pointed out in the Final Office Action, *Matsui* teaches that each client shall have this capability, not just a subset of the clients. The Final Office Action states that *Matsui* need not present a problem for a proposed motivation to apply; however, some suggestion must exist in the prior art for the combination to be obvious. Again, *Matsui* teaches a VRML space that is shared by all clients without constraint and *Dawson* teaches controlling access to applications at a host computer. The Final Office Action fails to show how the prior art teachings would lead a person of ordinary skill in the art to combine *Matsui* and *Dawson*. Therefore, the Office Action fails to establish a *prima facie* case of obviousness.

Still further, even assuming one would combine *Matsui* and *Dawson*, and such a combination could be made, the proposed combination would not result in the presently claimed invention. That is, a combination of *Matsui* and *Dawson* would not result in a virtual space communications system in which access to objects in the virtual space is controlled for a given participant. Rather, a combination of *Matsui* and *Dawson* would result in a virtual space communications system in which access to the applications at the host computer system is controlled.

The Final Office Action states that the combination does not need to result in a virtual space communication system in which access to objects in the virtual space is controlled for a given participant, because the feature is not claimed. Appellants respectfully disagree. Claim 21, for example, recites:

21. A method in a data processing system, comprising:
- rendering a three-dimensional environment on a client computer associated with a first participant to form a rendered three-dimensional environment;
 - receiving shared data from a client computer associated with a second participant, wherein the shared data includes information to be shared between the second participant and the first participant and access control information indicating an access control level for the first participant; and
 - displaying a virtual representation of the shared data in the rendered three-dimensional environment on the client computer associated with the first participant based on the access control level of the first participant.

The applied references, taken alone or in combination, fail to teach or suggest, for example, receiving shared data from a client computer that includes access control information indicating an access control level for a given participant, as recited in claim 21. Since the applied references, taken individually or in combination, fail to teach or fairly suggest each and every claim limitation and the proposed combination would not result in the presently claimed invention, *Matsui* and *Dawson* do not render claim 21 obvious. Independent claims 43 and 53 recite subject matter addressed above with respect to claim 21 and are allowable for similar reasons. Since claims 21-27 and 44-49 depend from claims 21 and 43, the same distinctions between *Matsui* and *Dawson* and the invention recited in claims 21, and 43 apply for these claims. Additionally, claims 22-27 and 44-49 recite other additional combinations of features not suggested by the reference.

Therefore, Appellants respectfully request that the rejection of claims 21-27, 43-49, and 53 under 35 U.S.C. § 103 not be sustained.

II. 35 U.S.C. § 103. Alleged Obviousness of claims 28, 50, and 54

The Office Action rejects claims 28, 50, and 54 under 35 U.S.C. § 103 as being unpatentable over *Benman, Jr.* (U.S. Patent No. 5,966,130 A) in view of *Kirk et al.* (U.S. Patent No. 6,175,842 B1). This rejection is respectfully traversed.

Benman teaches an integrated virtual network that provides a virtual three-dimensional representation of an office. An interface receives user input and adjusts the display to provide an image that appears to allow the user to virtually move within the office and access tools and assets. Figure 2 of *Benman* illustrates an implementation of a virtual workstation.

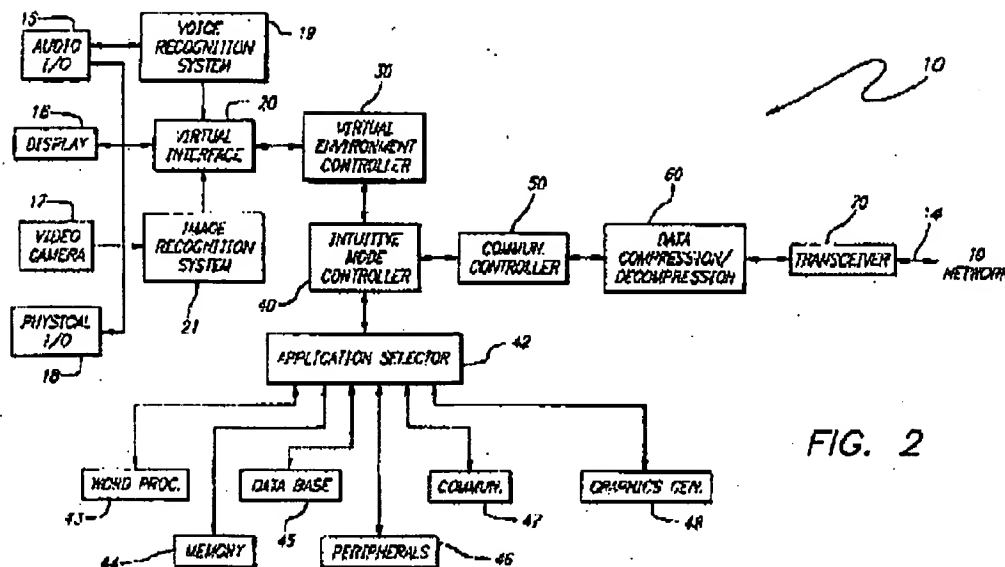


FIG. 2

Benman states the following:

While the virtual environment controller 30 stores and updates the virtual environment for display (step 120), a mode controller (computer) 40 receives and processes the virtual inputs and intuits the application tool to be selected based on the stored attributes of the tool and assets being accessed within the environment (steps 120 and 122). Thus, for example, as the user moves through the virtual office and pulls a file out of a drawer using a hand, an avatar or voice command, the intuitive mode controller 40 automatically selects a database tool 45 via an application selector 42. The database 45 displays a list of the contents of the virtual file cabinets on the display 16 as virtual files. When a document is selected, the user may place it on the desk. Simultaneously, the mode controller 40 intuitively selects a word processing program and brings up a file corresponding to the graphical representation of the file in response to virtual and/or real keyboard inputs as well as other inputs (e.g., voice). This is depicted at step 128. In this process, other tools including memory 44 and peripherals (such as offline storage devices) are used in a conventional manner.

Benman, col. 5, lines 14-33. Thus, *Benman* teaches that a document may be presented from local database storage in the virtual environment. *Benman* also states:

Thus, one user may virtually walk into the office of another worker and have a face-to-face meeting while viewing and editing a common document.

Benman, col. 3, lines 5-8. However, *Benman* does not address what happens if a document is not common to two workers. *Benman* does not teach or suggest transferring a file from a first client of a first participant to a second client of a second participant.

More particularly, as acknowledged in the Final Office Action, *Benman* does not teach or suggest receiving a selection of an avatar of a second participant, receiving a selection of a file to be transferred from the client computer associated with the first participant transferring the file to a client computer associated with the second participant, as recited in claim 28. The Final Office Action alleges that *Kirk* teaches an avatar representing a second participant and receiving selection of the avatar from the first participant at col. 3, lines 10-22, and col. 8, lines 13-22 and 34-37. The cited portions of *Kirk* are as follows:

The multi-user software allows each user to select an avatar to represent the user in the displayed VR environment. An avatar is a virtual representation of a user in a VR environment. It usually appears as a figurine or just the head of a figure. The user is able to move and interact in the VR by providing input to the user's avatar using client input devices. Avatar locations are tracked by the multi-user server, and avatar update information is periodically broadcast to all of the clients. The multi-user software on the clients then update the positions of the avatars displayed to their respective users. The multi-user software further allows users to interact socially with each other by allowing communications between users.

Kirk, col. 3, lines 10-22.

When a 3-D VR environment is displayed, each user appears as an avatar to other users in the environment. This functionality is supported by using a multi-user server 411 as is known in the art to generate, track, and exchange avatar and communications data between users occupying the same VR environment. In accordance with the present invention, user 410 selects an avatar by communicating through client A 401 with multi-user server 411 connected to the network 404. In one embodiment, the user selects an avatar from a set of predetermined avatars. In another embodiment, an avatar is randomly assigned to the user. In yet another embodiment, the user can build her own avatar using an avatar editing tool that enables the user to specify avatar characteristics such as torso length, body type, head shape, and facial characteristics.

As the user 410 provides inputs to client A 401 to control the movements of the avatar in a VR environment, the inputs are

provided to the multi-user server 411. Multi-user server also receives inputs from client B 402 (receiving inputs from user 412) and client C 403 (receiving inputs from user 413). The multi-user server 411 tracks the movements of the avatars and sends avatar data to each of the clients such that each of the users can see other users' avatars when those avatars are visible in the VR environment.

Kirk, col. 8, lines 13-36. Thus, *Kirk* teaches that a user may select her own avatar and users can see the avatars of other users in the virtual reality environment. However, *Kirk* does not mention selecting an avatar of another user. *Kirk* teaches that users may communicate using voice or text chat, but does not teach or fairly suggest receiving a selection of an avatar of a second participant from a first participant, receiving a selection of a file to be transferred from the client computer associated with the first participant transferring the file to a client computer associated with the second participant, as recited in claim 28, for example.

The Final Office Action alleges that the claims do not recite receiving a selection of an avatar of a second participant, but, rather, that the claims recite receiving a selection of the avatar." Appellants note that the phrase "the avatar" has antecedent basis to an earlier occurrence of "an avatar representing a second participant."

Since the applied references, taken individually or in combination, fail to teach or fairly suggest each and every claim limitation, the proposed combination would not result in the presently claimed invention. Therefore, *Benman* and *Kirk* do not render claim 28 obvious. Independent claims 50 and 54 recite subject matter addressed above with respect to claim 28 and are allowable for similar reasons.

Therefore, Appellants respectfully request that the rejection of claims 28, 50, and 54 under 35 U.S.C. § 103 not be sustained.

III. 35 U.S.C. § 103, Alleged Obviousness of claims 29 and 51

The Office Action rejects claims 29 and 51 under 35 U.S.C. § 103 as being unpatentable over *Benman, Jr.* (U.S. Patent No. 5,966,130 A) and *Kirk et al.* (U.S. Patent No. 6,175,842 B1) and further in view of *Dawson* (U.S. Patent No. 5,727,155 A). This rejection is respectfully traversed.

As stated above with respect to claims 28 and 50, *Benman* and *Kirk*, taken alone or in combination, do not teach or fairly suggest selecting an avatar of a second participant within a graphical user interface for transfer of a file, selecting a file to be transferred in the graphical user interface, and transferring the file to a client computer associated with the second participant. *Dawson* also fails to teach or suggest these features; therefore, *Dawson* does not cure the deficiencies of *Benman* and *Kirk*. As a result, claims 29 and 51 are allowable at least by virtue of their dependency on claims 28 and 50, respectively.

Further, with respect to claims 29 and 51, the Office Action acknowledges that *Matsui* and *Kirk* do not teach or suggest sending a transfer request to the second participant and receiving acceptance from the second participant, wherein the step of transferring the file to the client computer associated with the second participant is performed in response to receiving the acceptance. However, the Office Action alleges that *Dawson* teaches sending a transfer request to the second participant at col. 2, lines 5-10, of the BACKGROUND section. The cited portion of *Dawson* states:

Another type of remote access system in the prior art allows the owner of the system to share access with the remote user. In this type of system, only one of the owner or the remote user will have access to the system at any one particular time, not both. One disadvantage to such a system is that in order for access to be changed to a different user, the user without access must request it from the user with access. The user with access must then decide whether to relinquish access to the requesting user. Such a request is made every time a user without access desires access. Thus, in situations where significant interaction is occurring between two users, this type of system requires a substantial amount of ongoing user involvement, which is frequently distracting and annoying to both users. Furthermore, once the owner of the system relinquishes control to a remote user, there is nothing requiring the remote user to give control back to the owner when requested.

Dawson, col. 2, lines 1-16. This cited portion specifically teaches that a user may share remote access to an application at a host computer system, but the user must request access in order for access to be shared. The Office Action also alleges that *Dawson* teaches receiving an acceptance from the second participant and transferring the file to a client computer associated with the

second participant in response to receiving the acceptance in much later column 11, lines 40-44, of the DETAILED DESCRIPTION section. The cited portion of *Dawson* states:

If the remote system is accorded unlocked access, then the sensor application in the host system sends a signal to the remote system indicating that inputs by the remote user which modify a shared application should be transmitted to the host system, step 540. This signal causes the remote system to transfer all mouse and keyboard inputs by the remote system user which affect a shared application to the host system. In one embodiment, this determination of which inputs are transferred to the host system is performed by remote application 360 of FIG. 3.

Dawson, col. 11, lines 40-49. This cited portion has nothing to do with the previously cited portion; therefore, the user in this portion would not be the same "second participant" as the user in the previous portion.

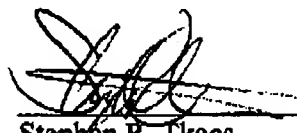
Furthermore, none of the cited portions of *Dawson*, or any un-cited portions, teaches or suggests transferring a file to a second participant, wherein an avatar representing the second participant and a file to be transferred are selected in a graphical user interface presenting a three-dimensional environment, in response to receiving the acceptance, as recited in claims 29 and 51. The Final Office Action proffers no analysis as to why sharing access to an application at a host computer system and modifying a shared application are somehow equivalent to transferring a file from a client computer associated with a first participant in a three-dimensional environment to a client computer associated with a second participant in the three-dimensional environment, wherein the second participant and the file to be transferred are selected in a graphical user interface that displays the three-dimensional environment at the client computer associated with the first participant.

The applied references, taken alone or in combination, fail to teach or suggest each and every claim limitation. For the above reasons, the applied references cannot be combined to form the presently claimed invention and, thus, the proposed combination of *Benman*, *Kirk*, and *Dawson* do not render claims 29 and 51 obvious.

Therefore, Appellants respectfully request that the rejection of claims 29 and 51 under 35 U.S.C. § 103 not be sustained.

CONCLUSION

In view of the above, Appellants respectfully submit that claims 21-29, 43-51, 53, and 54 are allowable over the cited prior art and that the application is in condition for allowance. Accordingly, Appellants respectfully request the Board of Patent Appeals and Interferences to not sustain the rejections set forth in the Final Office Action.



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CLAIMS APPENDIX

The text of the claims involved in the appeal reads:

21. A method in a data processing system, comprising:

rendering a three-dimensional environment on a client computer associated with a first participant to form a rendered three-dimensional environment;

receiving shared data from a client computer associated with a second participant, wherein the shared data includes information to be shared between the second participant and the first participant and access control information indicating an access control level for the first participant; and

displaying a virtual representation of the shared data in the rendered three-dimensional environment on the client computer associated with the first participant based on the access control level of the first participant.

22. The method of claim 21, wherein the access control level is one of an ownership access control level, an authorship access control level, a viewership access control level, a monitorship access control level, and a blind access control level.

23. The method of claim 21, further comprising:

receiving a request to modify the shared data; and

determining whether the first participant has a sufficient access control level based on the access control information.

24. The method of claim 23, further comprising modifying the shared data if the first participant has a sufficient access control level.

25. The method of claim 24, further comprising:

generating a shared data update event indicating the modification; and

sending the shared data update event to at least one other participant.

26. The method of claim 23, further comprising notifying the first participant of insufficient access control if the first participant does not have a sufficient access control level.

27. The method of claim 21, further comprising:

receiving a shared data update event indicating a modification to the shared data;

modifying the shared data according to the shared data update event to form modified data; and

displaying a modified representation of the modified data in the rendered three-dimensional environment based on the access control level of the first participant.

28. A method in a data processing system, comprising:

presenting a graphical user interface on a client computer associated with a first participant;

rendering a three-dimensional environment from the perspective of the first participant in the graphical user interface to form a rendered three-dimensional environment, the three-dimensional environment including an avatar representing a second participant;

receiving a selection of the avatar from the first participant in the graphical user interface;
receiving a selection, in the graphical user interface, of a file to be transferred from the
client computer associated with the first participant; and
transferring the file to a client computer associated with the second participant.

29. The method of claim 28, further comprising:

sending a transfer request to the second participant;

receiving an acceptance from the second participant;

wherein the step of transferring the file to a client computer is performed in response to
receiving the acceptance.

43. An apparatus, comprising:

rendering means for rendering a three-dimensional environment on a client computer
associated with a first participant to form a rendered three-dimensional environment;

receipt means for receiving shared data from a client computer associated with a second
participant, wherein the shared data includes information to be shared between the second
participant and the first participant and access control information indicating an access control
level for the first participant; and

display means for displaying a virtual representation of the shared data in the rendered
three-dimensional environment on the client computer associated with the first participant based
on the access control level of the first participant.

44. The apparatus of claim 43, wherein the access control level is one of an ownership access control level, an authorship access control level, a viewership access control level, a monitorship access control level, and a blind access control level.

45. The apparatus of claim 43, further comprising:

means for receiving a request to modify the shared data; and

means for determining whether the first participant has a sufficient access control level based on the access control information.

46. The apparatus of claim 45, further comprising means for modifying the shared data if the first participant has a sufficient access control level.

47. The apparatus of claim 46, further comprising:

means for generating a shared data update event indicating the modification; and

means for sending the shared data update event to at least one other participant.

48. The apparatus of claim 45, further comprising means for notifying the first participant of insufficient access control if the first participant does not have a sufficient access control level.

49. The apparatus of claim 43, further comprising:

means for receiving a shared data update event indicating a modification to the shared data;

means for modifying the shared data according to the shared data update event to form modified data; and

means for displaying a modified representation of the modified data in the rendered three-dimensional environment based on the access control level of the first participant.

50. An apparatus, comprising:

presentation means for presenting a graphical user interface on a client computer associated with a first participant;

rendering means for rendering a three-dimensional environment from the perspective of the first participant in the graphical user interface to form a rendered three-dimensional environment, the three-dimensional environment including an avatar representing a second participant;

first receipt means for receiving a selection of the avatar from the first participant in the graphical user interface;

second receipt means for receiving a selection, in the graphical user interface, of a file to be transferred from the client computer associated with the first participant; and

transfer means for transferring the file to a client computer associated with the second participant.

51. The apparatus of claim 50, further comprising:

means for sending a transfer request to the second participant;

means for receiving an acceptance from the second participant;

wherein the transfer means transfers the file to the client computer in response to the means for receiving the acceptance.

53. A computer program product, in a computer readable medium, comprising:

instructions for rendering a three-dimensional environment on a client computer associated with a first participant to form a rendered three-dimensional environment;

instructions for receiving shared data from a client computer associated with a second participant, wherein the shared data includes information to be shared between the second participant and the first participant and access control information indicating an access control level for the first participant; and

instructions for displaying a virtual representation of the shared data in the rendered three-dimensional environment on the client computer associated with the first participant based on the access control level of the first participant.

54. A computer program product, in a computer readable medium, comprising:

instructions for presenting a graphical user interface on a client computer associated with a first participant;

instructions for rendering a three-dimensional environment from the perspective of the first participant in the graphical user interface to form a rendered three-dimensional environment, the three-dimensional environment including an avatar representing a second participant;

instructions for receiving a selection of the avatar from the first participant in the graphical user interface;

instructions for receiving a selection, in the graphical user interface, of a file to be transferred from the client computer associated with the first participant; and

instructions for transferring the file to a client computer associated with the second participant.

EVIDENCE APPENDIX

There is no evidence to be presented.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.